

## ABSTRACT

A vehicle wheel bearing apparatus which can be press-fit into a knuckle of a light metal alloy, which is intended to reduce its weight as well as to prevent the reduction of preload and generation of creep in the wheel bearing due to temperature rise, has a wheel hub (1) with an integrally formed wheel mounting flange (4) at one end and an axially extending cylindrical portion (5) of a smaller diameter. A wheel bearing (3, 20, 24, 29, 31, 36, 37, 40, 43), including a double row rolling bearing, is arranged on the cylindrical portion (5). A knuckle (2) of a light metal includes the wheel bearing (3, 20, 24, 29, 31, 36, 37, 40, 43) press-fit into the knuckle (2) via a predetermined interference. The wheel hub (1) is rotatably supported relative to the knuckle (2) via the wheel bearing (3, 20, 24, 29, 31, 36, 37, 40, 43). At least one of an inner circumferential surface of an inner ring (13, 26, 33, 39, 44) and an outer circumferential surface of an outer ring (12, 21, 25, 30, 32, 38) of the wheel bearing (3, 20, 24, 29, 31, 36, 37, 40, 43) is formed with at least one annular groove (18, 22, 34, 45). Each annular groove (18, 22, 34, 45) is filled with a resin band (19, 23, 35, 46) by injection molding a heat resisting synthetic resin.